

SEQUENCE LISTING

<110> Samelson, Lawrence E.
Zhang, Weiguo

<120> Compositions and Methods for Identifying and Testing
Tyrosine Kinase Substrates and Their Agonists and
Antagonists

<130> NIH-05033

<140> PCT/US98/27400

<141> 1998-12-23

<150> 60/068,690

<151> 1997-12-23

<160> 15

<170> PatentIn Ver. 2.0

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<212> DNA

<213> Homo sapiens

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 <213> Homo sapiens

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Pro Gly Ser Tyr Asp Ser Thr Ser Ser Asp Ser Leu Tyr Pro Arg Gly
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Ile Gln Phe Lys Arg Pro His Thr Val Ala Pro Trp Pro Pro Ala Tyr
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Pro Pro Val Thr Ser Tyr Pro Pro Leu Ser Gln Pro Asp Leu Leu Pro
      65             70             75             80

Ile Pro Arg Ser Pro Gln Pro Leu Gly Gly Ser His Arg Thr Pro Ser
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 Ser Gly Glu Ser Ala Glu Ala Ser Leu Asp Gly Ser Arg Glu Tyr Val
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 Asn Val Ser Gln Glu Leu His Pro Gly Ala Ala Lys Thr Glu Pro Ala
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 <213> Mus musculus

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Arg Glu Tyr Val Asn Val Ser Pro Glu Gln Gln Pro Val Thr Arg Ala
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<212> PRT
<213> Homo sapiens

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 Ile Gly Val Cys Gln Ala Glu Ala Leu Met Leu Val Met Glu Met Ala
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 Gly Gly Gly Pro Leu His Lys Phe Leu Leu Gly Lys Lys Glu Ile Pro
 420 425 430
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 Tyr Leu Glu Glu Lys Asn Phe Val His Arg Asp Leu Ala Ala Arg Asn
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 Ser Lys Ala Leu Gly Ala Asp Asp Ser Tyr Tyr Thr Ala Arg Ser Ala
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 Gly Lys Trp Pro Leu Lys Trp Tyr Ala Pro Glu Cys Ile Asn Phe Arg
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 Lys Phe Ser Ser Arg Ser Asp Val Trp Ser Tyr Gly Val Thr Met Trp
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 Glu Ala Phe Ser Tyr Gly Gln Lys Pro Tyr Lys Lys Met Lys Gly Pro
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<211> 635

<212> PRT

<213> Homo sapiens

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      35                      40                      45

Gly Gly Phe Ala Leu Ser Val Ala His Gly Arg Lys Ala His His Tyr
      50                      55                      60

Thr Ile Glu Arg Glu Leu Asn Gly Thr Tyr Ala Ile Ala Gly Gly Arg
      65                      70                      75                      80

Thr His Ala Ser Pro Ala Asp Leu Cys His Tyr His Ser Gln Glu Ser
      85                      90                      95

Asp Gly Leu Val Cys Leu Leu Lys Lys Pro Phe Asn Arg Pro Gln Gly
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Arg	Pro	Gln	Leu	Pro	Gly	Ser	His	Pro	Ala	Thr	Trp	Ser	Ala	Gly	Gly	275	280	285	
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Val	Arg	Met	Ile	Gly	Ile	Cys	Glu	Ala	Glu	Ser	Trp	Met	Leu	Val	Met	435	440	445	
Glu	Met	Ala	Glu	Leu	Gly	Pro	Leu	Asn	Lys	Tyr	Leu	Gln	Gln	Asn	Arg	450	455	460	
His	Val	Lys	Asp	Lys	Asn	Ile	Ile	Glu	Leu	Val	His	Gln	Val	Ser	Met	465	470	475	480
Gly	Met	Lys	Tyr	Leu	Glu	Glu	Ser	Asn	Phe	Val	His	Arg	Asp	Leu	Ala	485	490	495	
Ala	Arg	Asn	Val	Leu	Leu	Val	Thr	Gln	His	Tyr	Ala	Lys	Ile	Ser	Asp	500	505	510	

Phe Gly Leu Ser Lys Ala Leu Arg Ala Asp Glu Asn Tyr Tyr Lys Ala
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 Gln Thr His Gly Lys Trp Pro Val Lys Trp Tyr Ala Pro Glu Cys Ile
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 Asn Tyr Tyr Lys Phe Ser Ser Lys Ser Asp Val Trp Ser Phe Gly Val
 545 550 555 560
 Leu Met Trp Glu Ala Phe Ser Tyr Gly Gln Lys Pro Tyr Arg Gly Met
 565 570 575
 Lys Gly Ser Glu Val Thr Ala Met Leu Glu Lys Gly Glu Arg Met Gly
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 Cys Pro Ala Gly Cys Pro Arg Glu Met Tyr Asp Leu Met Asn Leu Cys
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 Trp Thr Tyr Asp Val Glu Asn Arg Pro Gly Phe Ala Ala Val Glu Leu
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 aaagaattaa acccacaagc tgcctctgac agcagcctgt gagggagtgc agaacacctg 840
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 <211> 176
 <212> PRT
 <213> Homo sapiens

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 Asp Gln Asn Trp Tyr Lys Ala Glu Leu Asn Gly Lys Asp Gly Phe Ile
 35 40 45

Pro Lys Asn Tyr Ile Glu Met Lys Pro His Pro Phe Gly Asn Asp Val
50 55 60

Gln His Phe Lys Val Leu Arg Asp Gly Ala Gly Lys Tyr Phe Leu Trp
65 70 75 80

Val Val Lys Phe Asn Ser Leu Asn Glu Leu Val Asp Tyr His Arg Ser
85 90 95

Thr Ser Val Ser Arg Asn Gln Gln Ile Phe Leu Arg Asp Ile Glu Gln
100 105 110

Val Pro Gln Gln Pro Thr Tyr Val Gln Ala Leu Phe Asp Phe Asp Pro
115 120 125

Gln Glu Asp Gly Glu Leu Gly Phe Arg Arg Gly Asp Phe Ile His Val
130 135 140

Met Asp Asn Ser Asp Pro Asn Trp Trp Lys Gly Ala Cys His Gly Gln
145 150 155 160

Thr Gly Met Phe Pro Arg Asn Tyr Val Thr Pro Val Asn Arg Asn Val
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<210> 12
<211> 2758
<212> DNA
<213> Homo sapiens

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<210> 13
 <211> 797
 <212> PRT
 <213> Homo sapiens

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Lys Arg Lys Gln Phe Leu Cys Leu Lys Asn Ile Arg Thr Phe Leu Ser
          20          25          30

Thr Cys Cys Glu Lys Phe Gly Leu Lys Arg Ser Glu Leu Phe Glu Ala
          35          40          45

Phe Asp Leu Phe Asp Val Gln Asp Phe Gly Lys Val Ile Tyr Thr Leu
          50          55          60

Ser Ala Leu Ala Trp Thr Pro Ile Ala Gln Asn Arg Gly Ile Met Pro
          65          70          75          80

Phe Pro Thr Glu Glu Glu Ser Val Gly Asp Glu Asp Ile Tyr Ser Gly
          85          90          95

Leu Ser Asp Gln Ile Asp Asp Thr Val Glu Glu Asp Glu Asp Leu Tyr
          100          105          110

Asp Cys Val Glu Asn Glu Glu Ala Glu Gly Asp Glu Ile Tyr Glu Asp
          115          120          125

Leu Met Arg Ser Glu Pro Val Ser Met Pro Pro Lys Met Thr Glu Tyr
          130          135          140

Asp Lys Arg Cys Cys Cys Leu Arg Glu Ile Gln Gln Thr Glu Glu Lys
          145          150          155          160

Tyr Thr Asp Thr Leu Gly Ser Ile Gln Gln His Phe Leu Lys Pro Leu
          165          170          175

Gln Arg Phe Leu Lys Pro Gln Asp Ile Glu Ile Ile Phe Ile Asn Ile
          180          185          190

Glu Asp Leu Leu Arg Val His Thr His Phe Leu Lys Glu Met Lys Glu
          195          200          205

Ala Leu Gly Thr Pro Gly Ala Pro Asn Leu Tyr Gln Val Phe Ile Lys
          210          215          220

Tyr Lys Glu Arg Phe Leu Val Tyr Gly Arg Tyr Cys Ser Gln Val Glu
          225          230          235          240

Ser Ala Ser Lys His Leu Asp Arg Val Ala Ala Ala Arg Glu Asp Val
          245          250          255

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006799-026/6660

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 Thr Ala Arg Pro Ala Asp Gly Ala Tyr Ala Ala Ser Ser Gln Ile Ser
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 Pro Pro Ser Pro Gly Ala Gly Glu Thr His Ala Gly Gly Asp Gly Ala
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 Arg Lys Leu Arg Leu Ala Leu Asp Ala Met Arg Asp Leu Ala Gln Cys
 305 310 315 320
 Val Asn Glu Val Lys Arg Asp Asn Glu Thr Leu Arg Gln Ile Thr Asn
 325 330 335
 Phe Gln Leu Ser Ile Glu Asn Leu Asp Gln Ser Leu Ala His Tyr Gly
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 Arg Pro Lys Ile Asp Gly Glu Leu Lys Ile Thr Ser Val Glu Arg Arg
 355 360 365
 Ser Lys Met Asp Arg Tyr Ala Phe Leu Leu Asp Lys Ala Leu Leu Ile
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 Cys Lys Arg Arg Gly Asp Ser Tyr Asp Leu Lys Asp Phe Val Asn Leu
 385 390 395 400
 His Ser Phe Gln Val Arg Asp Asp Ser Ser Gly Asp Arg Asp Asn Lys
 405 410 415
 Lys Trp Ser His Met Phe Leu Leu Ile Glu Asp Gln Gly Ala Gln Gly
 420 425 430
 Tyr Glu Leu Phe Phe Lys Thr Arg Glu Leu Lys Lys Lys Trp Met Glu
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 Gln Phe Glu Met Ala Ile Ser Asn Ile Tyr Pro Glu Asn Ala Thr Ala
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 Asn Gly His Asp Phe Gln Met Phe Ser Phe Glu Glu Thr Thr Ser Cys
 465 470 475 480
 Lys Ala Cys Gln Met Leu Leu Arg Gly Thr Phe Tyr Gln Gly Tyr Arg
 485 490 495
 Cys His Arg Cys Arg Ala Ser Ala His Lys Glu Cys Leu Gly Arg Val
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 Pro Pro Cys Gly Arg His Gly Gln Asp Phe Pro Gly Thr Met Lys Lys
 515 520 525
 Asp Lys Leu His Arg Arg Ala Gln Asp Lys Lys Arg Asn Glu Leu Gly
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 Leu Pro Lys Met Glu Val Phe Gln Glu Tyr Tyr Gly Leu Pro Pro Pro
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 Pro Gly Ala Ile Gly Pro Phe Leu Arg Leu Asn Pro Gly Asp Ile Val
 565 570 575
 Glu Leu Thr Lys Ala Glu Ala Glu Gln Asn Trp Trp Glu Gly Arg Asn
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 Thr Ser Thr Asn Glu Ile Gly Trp Phe Pro Cys Asn Arg Val Lys Pro
 595 600 605
 Tyr Val His Gly Pro Pro Gln Asp Leu Ser Val His Leu Trp Tyr Ala
 610 615 620

Gly Pro Met Glu Arg Ala Gly Ala Glu Ser Ile Leu Ala Asn Arg Ser
 625 630 635 640
 Asp Gly Thr Phe Leu Val Arg Gln Arg Val Lys Asp Ala Ala Glu Phe
 645 650 655
 Ala Ile Ser Ile Lys Tyr Asn Val Glu Val Lys His Thr Val Lys Ile
 660 665 670
 Met Thr Ala Glu Gly Leu Tyr Arg Ile Thr Glu Lys Lys Ala Phe Arg
 675 680 685
 Gly Leu Thr Glu Leu Val Glu Phe Tyr Gln Gln Asn Ser Leu Lys Asp
 690 695 700
 Cys Phe Lys Ser Leu Asp Thr Thr Leu Gln Phe Pro Phe Lys Glu Pro
 705 710 715 720
 Glu Lys Arg Thr Ile Ser Arg Pro Ala Val Gly Ser Thr Lys Tyr Phe
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 Gly Thr Ala Lys Ala Arg Tyr Asp Phe Cys Ala Arg Asp Arg Ser Glu
 740 745 750
 Leu Ser Leu Lys Glu Gly Asp Ile Ile Lys Ile Leu Asn Lys Lys Gly
 755 760 765
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 Pro Ala Asn Tyr Val Glu Glu Asp Tyr Ser Glu Tyr Cys
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<210> 14
 <211> 3090
 <212> DNA
 <213> Homo sapiens

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<211> 906
<212> PRT
<213> Homo sapiens

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35 40 45
Gly Thr Val Asp Lys Lys Met Val Glu Lys Cys Trp Lys Leu Met Asp
50 55 60
Lys Val Val Arg Leu Cys Gln Asn Pro Lys Leu Ala Leu Lys Asn Ser
65 70 75 80
Pro Pro Tyr Ile Leu Asp Leu Leu Pro Asp Thr Tyr Gln His Leu Arg
85 90 95
Thr Ile Leu Ser Arg Tyr Glu Gly Lys Met Glu Thr Leu Gly Glu Asn
100 105 110
Glu Tyr Phe Arg Val Phe Met Glu Asn Leu Met Lys Lys Thr Lys Gln
115 120 125
Thr Ile Ser Leu Phe Lys Glu Gly Lys Glu Arg Met Tyr Glu Glu Asn
130 135 140
Ser Gln Pro Arg Arg Asn Leu Thr Lys Leu Ser Leu Ile Phe Ser His
145 150 155 160
Met Leu Ala Glu Leu Lys Gly Ile Phe Pro Ser Gly Leu Phe Gln Gly
165 170 175
Asp Thr Phe Arg Ile Thr Lys Ala Asp Ala Ala Glu Phe Trp Arg Lys
180 185 190

Ala Phe Gly Glu Lys Thr Ile Val Pro Trp Lys Ser Phe Arg Gln Ala
 195 200 205
 Leu His Glu Val His Pro Ile Ser Ser Gly Leu Glu Ala Met Ala Leu
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 Lys Ser Thr Ile Asp Leu Thr Cys Asn Asp Tyr Ile Ser Val Phe Glu
 225 230 235 240
 Phe Asp Ile Phe Thr Arg Leu Phe Gln Pro Trp Ser Ser Leu Leu Arg
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 Asn Trp Asn Ser Leu Ala Val Thr His Pro Gly Tyr Met Ala Phe Leu
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 Thr Tyr Asp Glu Val Lys Ala Arg Leu Gln Lys Phe Ile His Lys Pro
 275 280 285
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 290 295 300
 Ile Gly Tyr Val Thr Ala Asp Gly Asn Ile Leu Gln Thr Ile Pro His
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 Asn Lys Pro Leu Phe Gln Ala Leu Ile Asp Gly Phe Arg Glu Gly Phe
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 Tyr Leu Phe Pro Asp Gly Arg Asn Gln Asn Pro Asp Leu Thr Gly Leu
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 355 360 365
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 370 375 380
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 405 410 415
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 420 425 430
 Pro Phe Asp Pro Arg Gly Ser Gly Ser Leu Leu Arg Gln Gly Ala Glu
 435 440 445
 Gly Ala Pro Ser Pro Asn Tyr Asp Asp Asp Asp Asp Glu Arg Ala Asp
 450 455 460
 Asp Thr Leu Phe Met Met Lys Glu Leu Ala Gly Ala Lys Val Glu Arg
 465 470 475 480
 Pro Pro Ser Pro Phe Ser Met Ala Pro Gln Ala Ser Leu Pro Pro Val
 485 490 495
 Pro Pro Arg Leu Asp Leu Leu Pro Gln Arg Val Cys Val Pro Ser Ser
 500 505 510
 Ala Ser Ala Leu Gly Thr Ala Ser Lys Ala Ala Ser Gly Ser Leu His
 515 520 525
 Lys Asp Lys Pro Leu Pro Val Pro Pro Thr Leu Arg Asp Leu Pro Pro
 530 535 540
 Pro Pro Pro Pro Asp Arg Pro Tyr Ser Val Gly Ala Glu Ser Arg Pro
 545 550 555 560

